

**UNITED STATES DEPARTMENT OF COMMERCE****Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/517,732 03/02/00 IMAI

K 041514-5072

009629  
MORGAN, LEWIS & BOCKIUS  
1800 M STREET NW  
WASHINGTON DC 20036-5869

MMC2/1108

 EXAMINER

QUARTERMAN, K

 ART UNIT PAPER NUMBER

2879

**DATE MAILED:**

11/08/01

Please find below and/or attached an Office communication concerning this application or proceeding.

**Commissioner of Patents and Trademarks**

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/517,732	IMAI, KUNIO
	Examiner	Art Unit
	Kevin Quarterman	2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 02 March 2000.

2a) This action is FINAL.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-20 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 02 March 2000 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

## **DETAILED ACTION**

### ***Drawings***

1. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).
2. Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect can be deferred until the application is allowed by the examiner.

### ***Specification***

3. The disclosure is objected to because of the following informalities: In the third line of the second paragraph on page 4, reference character "2" has been used to denote a silicon substrate when reference character "1" has been previously used to denote the substrate. Appropriate correction is required.
4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
6. The following title is suggested: --SWITCHING ELEMENT HAVING INSULATIVE FILM AND ORGANIC FILM AND ELECTROLUMINESCENT ELEMENT DISPLAY DEVICE--.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 7, 9, 17 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. The term "high" in claims 7 and 17 is a relative term that renders the claim indefinite. The term "high" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The limitation of the intermediate electrode and gate electrode being made of a material having a *high* work function is rendered indefinite by use of the term "high" in the claim.

10. The term "low" in claims 9 and 19 is a relative term that renders the claim indefinite. The term "low" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The limitation of the intermediate electrode and gate electrode being made of a material having a *low* work function is rendered indefinite by use of the term "low" in the claim.

***Claim Rejections - 35 USC § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim et al. (USPN 6100954).

13. Regarding claims 1 and 6-10, Figure 10G of Kim et al. shows a switching element comprising an insulative film (157) and an organic thin film (159) being laminated one over the other, a pair of opposing electrodes (113, 131) sandwiching the insulative film and the organic thin film, and source and drain electrodes (123, 127) disposed between the organic thin film and the insulative film.

14. Regarding claims 2-5, Kim et al. disclose the organic thin film is made of an organic material such as fluorinated polyimide, Teflon, cytop, fluoropolyarylether, or fluorinated parylene.

#### ***Claim Rejections - 35 USC § 103***

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

16. Claims 11-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's prior art Figures 1 and 2 in view of Kim et al., as applied to claims 1-10 above.

17. Regarding claim 11, prior art Figure 1 shows an organic electroluminescent element including a substrate (1) having a first display electrode (201), an organic layer (202) formed on the first display electrode, and a second display electrode (203) formed on the organic material layer.

18. Regarding claim 13, applicant admits that a plurality of organic EL elements is arranged in a matrix (Page 1, Lines 14-16).

19. Regarding claim 14, prior art Figure 2 shows a capacitor (C) formed on the substrate and connected to the first or second display electrodes.

20. Regarding claim 15, applicant admits that the substrate and the first display electrode are transparent (Page 1, Lines 18-20).

21. Applicant's admitted prior art teaches the claimed invention except for an organic thin-film switching element being connected to the first or second electrode.

22. Kim et al. teach the organic thin-film switching element, as described above. Kim et al. disclose that the organic film achieves high quality contrast and provides an LCD with superior quality and performance (Column 22, Lines 13-32).

23. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the organic electroluminescent element of applicant's prior art Figure 1 with an organic thin-film switching element, as taught by Kim et al., for providing a highly efficient, high luminance, and long life full color display.

### ***Conclusion***

24. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tsumura et al., USPN 5500537, disclose a FET with at least two

different semi-conductive organic channel compounds. Koezuka et al., USPN 5107308, disclose a field-effect transistor. Tanaka et al., USPN 6060338, disclose a method of making a field-effect transistor. Tanaka et al., USPN 5892244, disclose a field-effect transistor including a  $\pi$ conjugate polymer. Fujii, USPN 6008588, discloses an organic EL device driving method. Tang et al., USPN 5684365, disclose a TFT-EL display panel using organic electroluminescent media. Fujii, USPN 6229505, discloses an organic EL device. Tsumura et al., JP 01259564, disclose a field-effect transistor.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Quarterman whose telephone number is (703) 308-6546. The examiner can normally be reached on M-F (8-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703) 305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Kevin Quarterman  
Examiner  
Art Unit 2879

kq   
October 31, 2001

  
Nimesh Patel  
Supervisory Patent Examiner  
Art Unit 2879